Award winning ROSES EPO proposals

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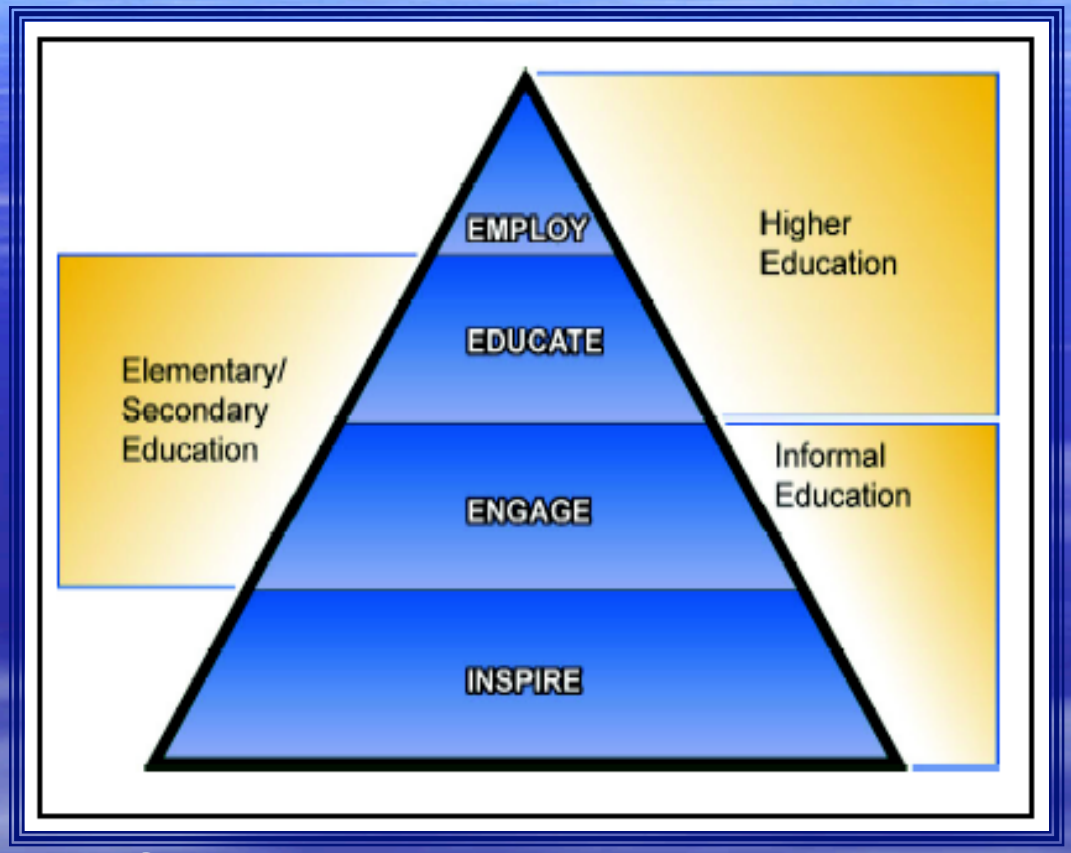
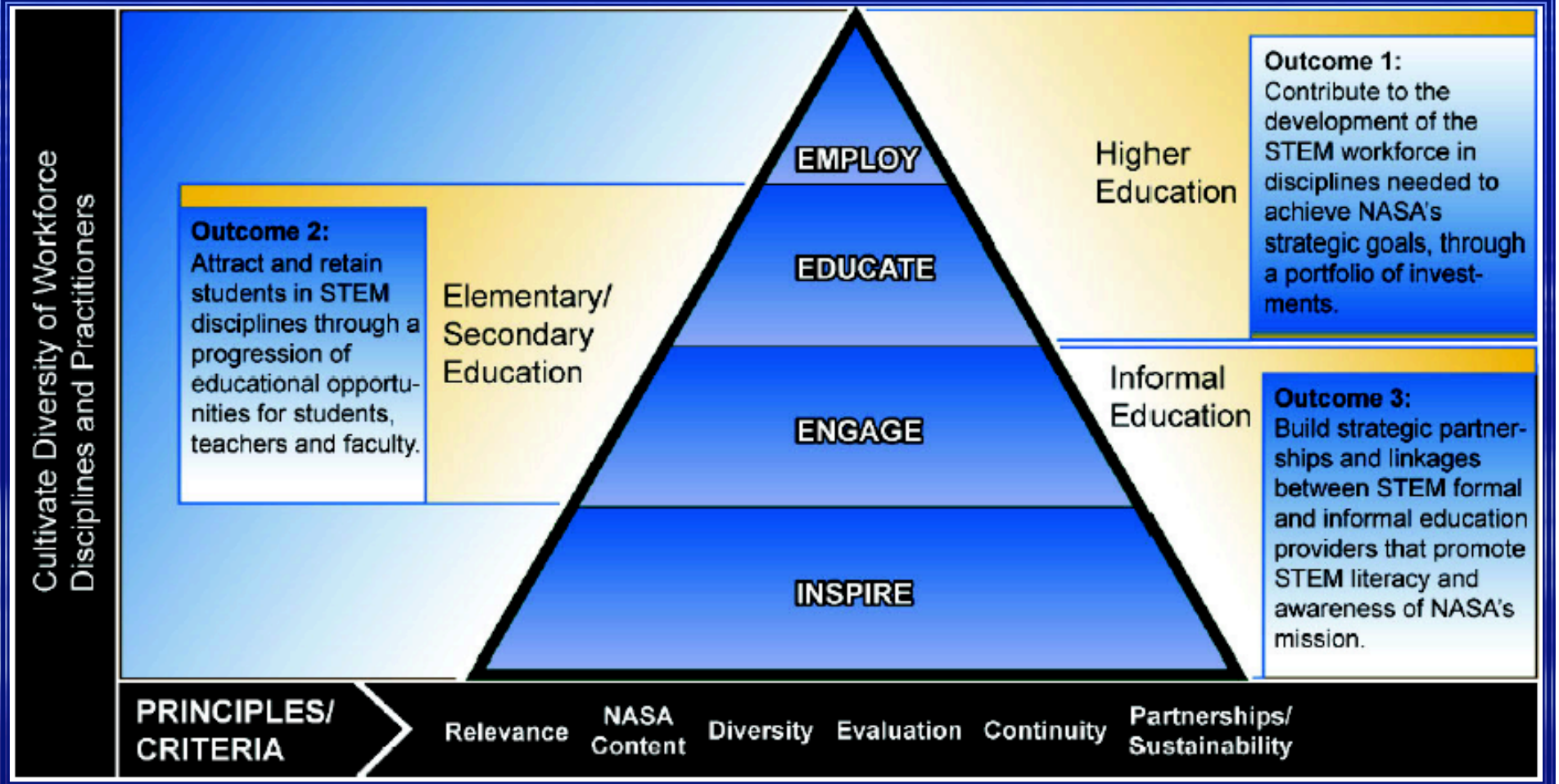
NASA
Education Strategic Framework



Strategic Communications: Education Initiatives

- Strengthen NASA and the Nation's future workforce
- Attract and retain students in STEM disciplines
- Engage Americans in NASA's mission

Outcomes Mapped to the Education Strategic Framework

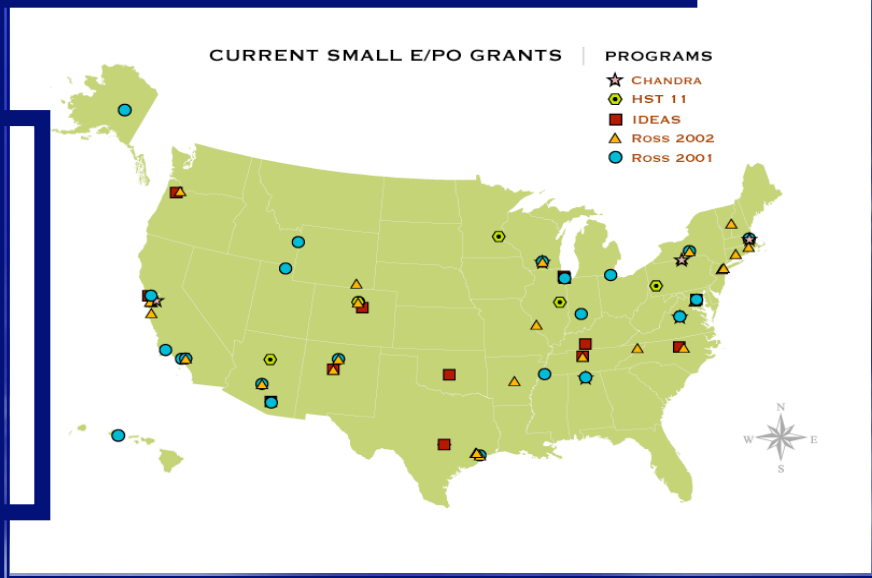


ROSES Program

- $15 K (Individual) $50K Institutional per year.
- Deadline for proposal 90 days
- Eligibility based on selection for a science award -- E/PO supplemental funding added to science award.
- Science PI is responsible for E/PO; can have a E/PO Co-I designated for implementation.
- Evaluation Process & Criteria.

ROSES E/PO Grants
(~100 active projects)

The awards are geographically distributed.



Many awards are reaching underserved communities with limited connection to NASA science.

Approximately 30% of proposals are selected for funding.

Less than 10% of Elligible scientists are submitting E/PO proposals!!!!!

Scientists in E/PO

- Your involvement in EPO is essential.
- EPO is an investment in the future of the scientific enterprise.
- You don't have to be or become an EPO expert. Just know enough to partner effectively with EPO experts.

Scientists in E/PO

- You can extend your influence and visibility through partnerships and new entry points into the educational system.
- A diversity of talents, interests, and involvements are needed to play important EPO roles (more than public speaking or classroom visits) in partnership with the professional EPO community.
- EPO efforts complement those involving the news media, but they are different in terms of the audiences they reach and the depth of their impact on learning. The whole spectrum of science communication is important.

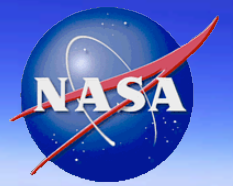
How to learn about E/PO Opportunities?

- Your Friendly E/PO office!

How to Prepare?
Concept Definition Phase

- **Who/where are the Co-I's? What are their achievements, interests in E/PO?**
- **LEARN ABOUT SMD E/PO EVALUATION CRITERIA.**
- **Set up brainstorming:**
  - **Meet with appropriate experts (education, etc.) (team effort)**
  - **Review prior winning E/PO abstracts**
  - **Audience Identification**
  - **Audience Needs Identification**
  - **To which school topic is it most relevant?**
  - **What are the big challenges?**
  - **Is there new technology?**

How to Start?
Concept Design Phase



- Develop goals and objectives.
- Determine skills needed to implement the E/PO idea.
- Develop E/PO team and clear responsibilities chart.
- What do I (scientist) want to do?
- Who can do the rest?
- Timelines and schedules.
- Budget.
- SANITY CHECK by THIRD PARTY
  (Idea, Partners, Timelines, Schedules, Budget….)

Proposal Writing
E/PO Proposal

- **Budget Justification.**
  (Is everyone's role defined and have appropriate resources?)
- **Partnership Commitments.**
  (Letters of Support/Commitment, Resumes…)
- **Review with Team.**
- **Review with members of target audience or external third party.**
- **(If possible review with peers)**

Revised Evaluation Factors

Current

- **Intrinsic Merit**
  - Quality, Scope, Realism and tie to science
  - **Customer Needs Focus**
  - Partnerships/Leverage/ Sustainability
  - Evaluation
- **Relevance to NASA Objectives**
  - Content
  - **Pipeline**
  - **Diversity**
- **Cost**
  - Budget Realism

2007

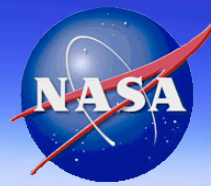
- **Intrinsic Merit**
  - Quality, Scope, Realism and tie to science
  - **Continuity**
  - Partnerships/Leverage/ Sustainability
  - Evaluation
- **Relevance to NASA Objectives**
  - **Customer Needs Focus**
  - Content
- **Cost**
  - Budget Realism
- **Program Balance Factors**
  - **Pipeline**
  - **Diversity**

Evaluation Factors - Comments

- **Program Balance Factors**
  - **Pipeline & Diversity**
- SMD will use the program balance factors in selecting among EPO proposals of essentially equivalent overall rating based on Intrinsic Merit, Relevance, and Cost Factors.

- **Continuity**
  - Projects and activities draw from audiences that have demonstrated interest in NASA and connect participants to the next level of engagement.

Quality, Scope, Realism, & tie to Science



- Vision and Implementation Strategy are clear, well planned, and well developed.
- Clear Goals and Comprehensive Overview.
- Clear Connection between the science objectives and the educational themes.
- Clear Schedule/Timelines.
- Clear Management Responsibilities.
- Demonstrate high probability for successful implementation.

Customer Needs Focus

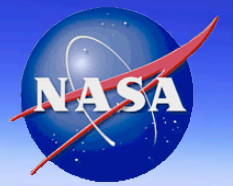
- E/PO Program is based on a clearly expressed, compelling mutual need between NASA and target audience.
- Needs Assessment Evaluation.
- NASA funded programs can make an effective content contribution.
- Participants will find the program valuable.
- Evidence of the programs accessibility to intended audience.

Partnerships/Leverage/ Sustainability

- **Indicators of committed, qualified, and capable partnerships.**
  - Well-defined roles and specific tasks related to the design, development, implementation, dissemination, and/or evaluation.
  - Partners are identified, letters of commitment, and specific support.

- **Indicators of high leverage and/or sustainability.**
  - Building on an existing and successful effort.
  - Impact beyond direct beneficiaries to larger audiences.
  - Suitable for replication or broad dissemination and other educational institutions
  - Program sustainable beyond initial funding by showing potential for continuation, adoption by the target audiences, and/or incorporation into institutional programmatic efforts.

Evaluation



- Identify credible evaluation source.
- Evaluation uses techniques appropriate to the scale and type of the E/PO program.
- Formative Evaluation:
  - Evaluation methods provide useful information on the effectiveness of the E/PO program. The program implements improvements based on formative evaluation. (Field testing where appropriate.)
- Summative Evaluation:
  - Collect, analyze, and report output and outcome data of the program with regard to audience. (better understanding of seasons!)

Potential Problem Areas
Intrinsic Merit

- Is the proposed work and target audience appropriate to the program opportunity?
- Is there evidence of a real need expressed by the target audience? (Surveys, papers, letters, etc.)
- Is the scope appropriate for the amount of funding requested?
- Does the proposal and the content target an appropriate audience and age level?
- Is the proposal internally consistent - is the same target audience used throughout, etc.

Potential Problem Areas
Intrinsic Merit

- Is the scientist(s) genuinely involved?
- Is there evidence of actual partnerships? (Names of individuals to contact, letters, etc.)
- Are the personnel identified and qualified to do the tasks they have been assigned?

  (An individual familiar with the target audience should be involved with the effort)
- Are appropriate evaluation techniques used and what is done with the information?

Relevance to NASA Objectives

- **Content:**
  - E/PO program makes direct use of NASA content, people, or facilities to involve educators, students, and/or the public in NASA science, technology, engineering, and mathematics.
- **Pipeline:**
  - Through the use of NASA space science, E/PO program makes a demonstrable contribution to attracting diverse populations to careers in science, technology, engineering, and mathematics (STEM).
- **Diversity:**
  - Through the use of NASA space science, E/PO program reaches identified target groups. Contributes to the involvement, broad understanding, and/or training of underserved and/or underutilized groups.

Potential Problem Areas Relevance

- Are appropriate education standards cited for "formal" education programs?

  (If it's a middle school program - identify specific middle school standards, etc.)

- Is the content target group and age appropriate?

CO$T, Budget Realism

- E/PO program outcomes justify total program costs.
- Proposers provide evidence that the scale of E/PO program is appropriate.
- Overall program budget is cost effective.
- Adequate funds are included for E/PO partners with respect to their level of involvement.

Potential Problem Areas Cost

- Amount of effort not specified or unreasonable
- Source of cost sharing not identified or not included in budget.
- Insufficient justification of activities and costs.

Highly Rated Proposals
(It the Details!)

- **Examples:**
  - If you are going to do a teacher workshop, indicate how many teachers, how many contact hours, the content, how you will identify and select the teachers.
  - If you are going to hire an assistant, what are the qualifications and how will the selection be done.
  - How are you engaging/reaching the target audience? E.g. advertising, free admissions, stipends, etc.

Details

- If you are supplying materials, specify what you are supplying
- Is there cost sharing either in-kind or cash? Who is providing it and is there a commitment?
- Costs are justified based on documented experience for similar projects

  (how much effort does it take to do a 1 day workshop)
- Costs are justified based on documented sources (how much does a book cost)

Misconceptions

- E/PO is required of all scientists

  (It is an option for small grants. Missions must have an EPO program but there is no requirement that all scientists participate.)
- NASA SMD won't pay overhead or pay PI's

  (We do if it is justified)
- NASA SMD won't pay for equipment

  (We do if it is necessary, justified, and within allowable limits)
- You must have an EPO lead

  (Not required but strongly recommended when the PI does not have demonstrated expertise specific to the proposed activities.)

Additional Information

Details of the SMD E/PO program are contained in documents which can be accessed at:

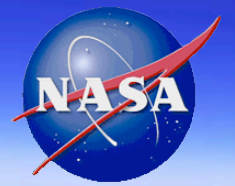
http://science.hq.nasa.gov/research/epo.htm

Explanatory Guide to NASA SMD E/PO

Annual Reports

Newsletters

Remember!



- Define a project and role with which you are comfortable.
- Find the right partners.

- Clear and Realistic goals.
- Clear ties to the science and technology of parent programs.

- Larger Impact and National in Scope

- Partnerships/Leverage/Sustainability.
- Name specific Evaluator.
- Have a dissemination plan.

- Customer Needs Focus

Results

- Increase of Interest in Science:

A Scientist is Born!